UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB2000-0316

January 17, 2001

Mr. Lawrence C. Evans
U.S. Army Corps of Engineers
Attn: Teena Monical
Regulatory Branch, CENWP-OP-G
P.O. Box 2946
Portland, OR 97208-2946

Re: Formal Section 7 Consultation and Essential Fish Habitat Consultation for a Dock Extension and Bank Stabilization Project, City of Astoria, Clatsop County, Oregon (Corps No. 2000-00300)

Dear Mr. Evans:

On December 4, 2000, the National Marine Fisheries Service (NMFS) received a letter from the Corps of Engineers (COE) requesting formal consultation on the issuance of a permit for the City of Astoria Dock Extension and Bank Stabilization Project (permit 2000-00300). The project is located in the City of Astoria, Clatsop County, Oregon. The proposed action is for the extension of an existing dock at the Maritime Museum and bank stabilization along 285' of the City's riverside walkway near river mile 14.7 of the Columbia River.

Enclosed is the NMFS' biological opinion (Opinion) on the project. This Opinion addresses Snake River sockeye salmon, Snake River fall chinook salmon, Snake River spring/summer chinook salmon, Upper Columbia River spring-run chinook salmon, Lower Columbia River chinook salmon, Upper Willamette River chinook salmon, Columbia River chum salmon, Snake River steelhead, Upper Columbia River steelhead, Middle Columbia River steelhead, Upper Willamette River steelhead, and Lower Columbia River steelhead and constitutes formal consultation for these listed species. The NMFS has determined that the proposed action is not likely to jeopardize the continued existence of those listed species. An Incidental Take Statement provides non-discretionary terms and conditions to minimize the potential for incidental take of listed species.

In addition, this document also serves as consultation on Essential Fish Habitat for groundfish, coastal pelagic fish species, and coho and chinook salmon under the Magnuson-Stevens Act and its implementing regulations (50 CFR Part 600).

If you have any questions regarding this Opinion, please contact Ben Meyer of my staff in the Oregon State Branch Office at (503) 230-5425.

Sincerely,

for Donna Darm
Acting Regional Administrator

Enclosure

Endangered Species Act - Section 7 Consultation
Biological Opinion
&
Magnuson-Stevens Act
Essential Fish Habitat Consultation

City of Astoria, Clatsop County, Oregon
City Dock Extension and Bank Stabilization Project
(Corps No. 2000-00300)

Agency: Army Corps of Engineers, Portland District

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: January 17, 2001

Refer to: OSB2000-0316

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1. BACKGROUND

On December 4, 2000, the National Marine Fisheries Service (NMFS) received a request from Portland District Army Corps of Engineers (COE) for Endangered Species Act (ESA) section 7 formal consultation for issuance of a COE permit (Corps No. 2000-00300) for a dock extension and bank stabilization project in the Columbia River at the City of Astoria, Clatsop County, Oregon. In the biological assessment (BA) attached to the November 29, 2000, request, the COE determined that the Snake River sockeye salmon (*Oncorhynchus nerka*), Snake River spring/summer chinook salmon (*O. tshawytscha*), Snake River fall chinook salmon (*O. tshawytscha*), Lower Columbia River steelhead (*O. mykiss*), Upper Columbia River steelhead (*O. mykiss*), Snake River steelhead (*O. mykiss*), Middle Columbia River steelhead (*O. mykiss*), Columbia River chum salmon (*O. keta*), Lower Columbia River chinook salmon (*O. tshawytscha*), Upper Columbia River spring run chinook salmon (*O. tshawytscha*), Upper Willamette River steelhead (*O. mykiss*) and Upper Willamette River chinook (*O. tshawytscha*) may occur within the project area and may be adversely affected by the proposed project. References and dates listing status, critical habitat designations and ESA section 4(d) take prohibitions are listed in Table 1.

The NMFS has prepared this biological opinion (Opinion) to address impacts to these species as a result of the proposed project. The objective of this Opinion is to determine whether the action to extend a dock and stabilize the bank, through the use of riprap, is likely to jeopardize the continued existence of the above listed species or destroy or adversely modify critical habitat.

2. PROPOSED ACTION

The proposed action is the installation of a 90 foot by 10 foot dock extension supported by steel pilings at the existing dock at the Maritime Museum. In addition, the City is proposing the placement of concrete with a rock riprap overlay to protect 285 feet of bankline along the City's waterfront bike and pedestrian path.

As a conservation measure for the bank stabilization, the applicant proposes to conduct work during the in-water work period of November 1 to February 28 or outside of the wetted river perimeter. Work would be preformed from the top of the bank and in the dry. All equipment maintenance would be done a minimum of 75 feet from the top of the bank. In addition, the City has indicated that willows will be planted along the bank between the high tide line and the top of the bank to improve habitat for salmonids and monitor their establishment over a five year period. The City indicates that the willows would be cropped at top of bank height to maintain views of the river. The vegetation plan also indicates that native trees would be planted on two-foot centers. Native trees would not be cropped, but may be pruned.

Table 1. References for additional background on listing status, biological information, and critical habitat elements for the listed and proposed species addressed in this biological and conference opinion.

Species	Listing Status	Critical Habitat	Protective Regulations	Biological Information, Historical Population Trends
Columbia River chum salmon	March 25, 1999; 64 FR 14508, Threatened	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Johnson *et al.* 1997; Salo 1991
Lower Columbia River steelhead	March 19, 1998; 63 FR 13347, Threatened	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Busby *et al.* 1995; 1996
Middle Columbia River steelhead	March 25, 1999; 64 FR 14517, Threatened	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Busby *et al.* 1995; 1996
Upper Columbia River steelhead	August 18, 1997; 62 FR 43937, Endangered	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Busby *et al.* 1995; 1996
Upper Willamette River steelhead	March 24, 1999 64 FR 14517, Threatened	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Busby *et al.* 1995; 1996
Snake River Basin steelhead	August 18, 1997; 62 FR 43937, Threatened	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Busby *et al.* 1995; 1996
Snake River sockeye salmon	November 20, 1991; 56 FR 58619, Endangered	December 28, 1993; 58 FR 68543	November 20, 1991; 56 FR 58619	Waples *et al.* 1991a; Burgner 1991
Lower Columbia River chinook salmon	March 24, 1999; 64 FR 14308, Threatened	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Myers *et al.*1998; Healey 1991
Upper Columbia River spring-run chinook salmon	March 24, 1999; 64 FR 14308, Endangered	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Myers *et al.*1998; Healey 1991
Upper Willamette River chinook salmon	March 24, 1999; 64 FR 14308, Threatened	February 16, 2000; 65 FR 7764	July 10, 2000; 65 FR 42423	Busby *et al.* 1995; 1996
Snake River spring/summer-run chinook salmon	April 22, 1992; 57 FR 34653, Threatened	December 28, 1993; 58 FR 68543	April 22, 1992; 57 FR 14653	Matthews and Waples 1991; Healey 1991
Snake River fall chinook salmon	April 22, 1992; 57 FR 34653, Threatened	December 28, 1993; 58 FR 68543	April 22, 1992; 57 FR 14653	Waples *et al.* 1991b; Healey 1991

3. BIOLOGICAL INFORMATION AND CRITICAL HABITAT

Based on migratory timing, the NMFS expects that only a few rearing juvenile salmonids would be present during the proposed in-water work period. Listed juvenile steelhead and salmon could occur in the area after construction is completed. The proposed action would occur within designated critical habitat for listed species.

The action area is defined by NMFS regulations (50 CFR 402) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area includes designated critical habitat affected by the proposed action within the Columbia River (mile 14.7). The Columbia River at the City of Astoria serves as a migration area for all listed species under consideration in this Opinion. It may also serve as a feeding and rearing area for juvenile chum and sub-yearling chinook salmon. Essential features of the area for the species are: (1) Substrate; (2) water quality; (3) water quantity; (4) water temperature; (5) water velocity; (6) cover/shelter; (7) food (juvenile only); (8) riparian vegetation; (9) space; and (10) safe passage conditions (50 CFR 226). The essential features this proposed project may affect are water quality resulting from construction activities; riparian vegetation; cover/shelter; food; and safe passage conditions as a result of the structures placed in the river.

4. EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by 50 CFR 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of: (1) Defining the biological requirements of the listed species, and (2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmon's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize the continued existence of the listed species, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential feature of critical habitat. The NMFS then considers whether such impairment

appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will adversely modify critical habitat, it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for migration, spawning, and rearing of the listed and proposed species under the existing environmental baseline.

4.1. Biological Requirements

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess to the current status of the listed species, NMFS starts with the determinations made in its decision to list the species for ESA protection and also considers new data available that is relevant to the determination (Myers et al. 1998).

The relevant biological requirements are those necessary for the listed species to survive and recover to a naturally reproducing population level at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance its capacity to adapt to various environmental conditions, and allow it to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing and migration. The current status of the listed species, based upon their risk of extinction, has not significantly improved since the species were listed.

4.2. Environmental Baseline

The biological requirements of the listed species are currently not being met under the environmental baseline. Their status is such that there must be a significant improvement in the environmental conditions they experience over those currently available under the environmental baseline. Any further degradation of these conditions would have a significant impact due to the amount of risk they presently face under the environmental baseline.

The defined action area is the area that is directly and indirectly affected by the proposed action. The direct effects occur at the project site and may extend upstream or downstream, based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. For the purposes of this Opinion, the action area is defined as the Columbia River along two mile stretch of the City of Astoria's waterfront upstream of the

Astoria-Megler Bridge. Other areas of the Columbia River are not expected to be directly or indirectly impacted.

5. ANALYSIS OF EFFECTS

5.1. Effects of Proposed Actions

5.1.1 Dock Construction

During migration, juvenile fall chinook salmon typically orient toward shallow, nearshore habitats (Dawley et al. 1986). Sockeye salmon and steelhead juveniles are normally found mid-river during migration (Dawley et al. 1986). Juvenile salmonid species such as spring chinook, sockeye, and coho salmon and up-river steelhead usually move downriver relatively quickly and in the main channel. This would aid in predator avoidance (Gray and Rondorf 1986). Fall and summer chinook salmon are found in littoral habitats and are particularly vulnerable to predation (Gray and Rondorf 1986). Juvenile chum salmon also extensively use littoral habitats within the Columbia River estuary (Bisson et al. 2000). In addition, the presence of predators may force smaller prey fish species into less desirable habitats, disrupting foraging behavior, resulting in less growth (Dunsmoor et al. 1991).

When a salmon stock suffers from low abundance, predation can contribute significantly to its extinction (Larkin 1979). Further, providing temporary respite from predation may contribute to increasing Pacific salmon (Larkin 1979). A substantial reduction in predators will generally result in an increase in prey (in this case, salmonids) abundance (Campbell 1979). Gray and Rondorf (1986), in evaluating predation in the Columbia River Basin, state that "The most effective management program may be to reduce the susceptibility of juvenile salmonids to predation by providing maximum protection during their downstream migration." Campbell (1979), discussing management of large rivers and predator-prey relations, advocates that a "do nothing" approach (as opposed to predator manipulations) coupled with a strong habitat protectionist policy, should receive serious consideration.

Predator species such as northern pikeminnow (*Ptychocheilus oregonensis*), and introduced predators such as largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), black crappie (*Pomoxis nigromaculatus*), white crappie (*P. annularis*) and, potentially, walleye (*Stizostedion vitreum*) (Ward et al. 1994, Poe et al. 1991, Beamesderfer and Rieman 1991, Rieman et al. 1991, Petersen et al. 1990, Pflug and Pauley 1984, and Collis et al. 1995) may utilize habitat created by over-water structures (Ward and Nigro 1992, Pflug and Pauley 1984) such as piers, float houses, floats and docks. However, the population of these predators in the action area and their usage of the proposed dock structure is expected to be slight.

Durkin and McConnel1 (1973) caught none of the above mentioned predators while sampling in the estuary. McCabe et al. (1993), sampling fishes for a proposed new dredged material

disposal site near Astoria did not collect any predatory species commonly associated with in-water structures. Hinton and Emmett (2000) collected only three largemouth bass in three years of sampling in Trestle Bay (a restored backwater area near Astoria). Therefore, based on low samples of fish caught, NMFS does not expect to see predatory fish using the proposed dock addition.

5.1.2 Bank Stabilization

There will be a small loss of riparian habitat with placement of large riprap, but the placement of willow shoots and other native vegetation within the interstices will improve existing habitat conditions in the action area. The potential net effect from of the proposed action, including mitigation, is expected to maintain the present conditions within the action area.

In-water work associated with riprap placement could result in the disturbance of juvenile fish that may be rearing in the vicinity of the action area. However, the probability of direct mortality is low. Approximately 285 linear feet of stream bank (majority of which is above the high tide line) will be altered as a result of the placement of riprap. To minimize the impact from this alteration, native riparian species will be planted in the project area. The cropping of willows proposed for planting within the riprap for the first few years will increase their spreading. However, continuous cropping to maintain views will minimize their effectiveness in the delivery of carbon and insect drift to the system.

Short-term increases in turbidity and sedimentation resulting from construction will be offset by conducting the activity during the in-water work period. The amount and duration of any increase in turbidity will be limited because of the short time frame to complete the project and the small amount of material to be placed below the ordinary high water line. Over the long term, it is likely that the project will result in less turbidity and sedimentation than existing conditions.

5.2. Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. For the proposed action, NMFS expects that the effects will tend to maintain conditions in the watershed under current baseline conditions over the long term. The City of Astoria's waterfront currently provides poor habitat for juveniles because of the lack of cover, extensive riprap and numerous dock structures. Increased native vegetation within the riprap interstices is likely to have a beneficial affect on critical habitat.

5.3. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action

area of the Federal action subject to consultation." For the purposes of this analysis, the action area is the City of Astoria's Columbia River waterfront. Other activities within the watershed have the potential to impact fish and habitat within the action area. Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities will be reviewed through separate section 7 consultation processes. NMFS is not aware of any significant change in non-Federal activities that are reasonably certain to occur. NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

6. CONCLUSION

NMFS has determined, based on the available information, that the proposed action covered in this Opinion is not likely to jeopardize the continued existence of listed salmonids or adversely modify critical habitat. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS believes that the proposed action would cause a minor, short-term degradation of anadromous salmonid habitat due to sediment impacts and in-water construction. In the long-term, uncropped willows planted for this project would improve riparian habitat. In addition, the dock structure could provide habitat for predaceous fish, but the small population size of predators in the estuary makes these impacts unlikely. Although direct mortality from this project could occur during the in-water work, it is not expected, and the level of mortality would be minimal and would not result in jeopardy.

7. REINITIATION OF CONSULTATION

Consultation must be reinitiated if: The amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, the COE should contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

8. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that

create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

8.1. Amount or Extent of the Take

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of listed salmonids because of detrimental effects from increased sediment levels (non-lethal), the potential for direct incidental take during in-water work (lethal and non-lethal) and the small potential for incidental take by predaceous fish utilizing the habitat created by the dock structure. Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the BA, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of the take is limited to the project area.

8.2. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of the above species.

1. To minimize the amount and extent of incidental take from construction activities, measures shall be taken to: Limit the duration of in-water work; time such work to occur when listed fish are absent; and implement effective pollution control measures to minimize the movement of soils and sediment into the Columbia River.

2. To minimize the amount and extent of take from loss of habitat, and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian habitat, or where impacts are unavoidable, to replace lost riparian habitat function.

3. To ensure effectiveness of implementation of the reasonable and prudent measures, all plantings shall be monitored and meet criteria as described below in the terms and conditions.

8.3. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the COE must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure No. 1, above, the COE shall ensure that:

    a. All work below the ordinary high water line will be completed within the approved in-water work period. Any extensions of the in-water work period will first be approved by and coordinated with NMFS.

    b. All equipment that is used for instream work will be cleaned prior to entering the job site. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment. Areas for fuel storage and servicing of construction equipment and vehicles will be located at least 150 feet away from any water body.

2. To implement reasonable and prudent measure No. 2, above, the COE shall ensure that to facilitate growth and spreading of the willows, pruning shall be allowed for the first three years. No pruning of the willows shall be allowed after the third year. Any other native trees planted shall not be cropped or pruned.

3. To implement reasonable and prudent measure No. 3, above, the COE shall ensure that:

    a. The applicant shall monitor the success of plantings within, and adjacent to, the riprap. The applicant will supply a monitoring report to the COE that shall include photos of the plantings in the project area. The monitoring should be done one year following construction, and again at year 3 and year 5.

    b. Failed plantings will be replaced yearly, for a period of 5 years.

    c. If, at the end of 5 years, vegetation has not established, the City will meet with the COE and NMFS to evaluate and implement potential remedial actions to establish vegetation within the area.

9. ESSENTIAL FISH HABITAT CONSULTATION

The Pacific Fisheries Management Council (PFMC) is one of eight regional fishery management councils established under the Magnuson-Stevens Act. PFMC develops and carries out fisheries management plans for salmon, groundfish and coastal pelagic species off the coasts of Washington, Oregon and California, and recommends Pacific halibut harvest regulations to the International Pacific Halibut Commission.

As required by the Magnuson-Stevens Act, PFMC described and identified Essential Fish Habitat (EFH) in each of its fisheries management plans. EFH includes "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity." The Columbia River estuary and the Pacific Ocean off the mouth of the Columbia River were designated as EFH for groundfish and coastal pelagic species,[1] and all streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California are designated as EFH for salmon.[2]

The Magnuson-Stevens Act also established an EFH consultation process. Federal agencies are required to consult with NMFS on all actions that may adversely affect EFH. The NMFS interprets the scope of these consultations to include actions by Federal agencies that occur outside designated EFH, such as upstream or upslope, but which nonetheless may have an adverse effect on habitat conditions necessary for the long-term survival of the species within EFH. The NMFS must provide conservation recommendations for any Federal or State activity that may adversely affect EFH. Within 30 days of receiving EFH conservation recommendations from the NMFS, Federal agencies must conclude EFH consultation by responding to NMFS with a written description of conservation measures the agency will use to avoid, mitigate or offset the impact of its action on EFH. If the Federal agency selects conservation measures which are inconsistent with the conservation recommendations of NMFS, the Federal agency must explain in writing its reasons for not following NMFS' recommendations.

The estuarine and offshore marine waters are designated EFH for various life stages of 62 species of groundfish and five coastal pelagic species. A detailed description and identification of EFH for groundfish is found in the Final Environmental Assessment/Regulatory Impact Review for Amendment 11 to The Pacific Coast Groundfish Management Plan (PFMC 1998a) and the NMFS EFH for West Coast Groundfish Appendix (Casillas *et al.* 1998). A detailed description and identification of EFH for coastal pelagic species is found in Amendment 8 to the

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[1] Pacific Fishery Management Council, Final Environmental Assessment/ Regulatory Review for Amendment 11 to the Pacific Coast Groundfish Fishery Management Plan (October 1998), and The Coastal Pelagic Species Fishery Management Plan: Amendment 8 (December 1998). See, also, Casillas, *et al.*, Essential Fish Habitat West Coast Groundfish Appendix, National Marine Fisheries Service, 778 p. (1988).

[2] Pacific Fishery Management Council, Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and Identification of Essential Fish Habitat, Adverse Impacts and Recommended Conservation Measures for Salmon (1999).

Coastal Pelagic Species Fishery Management Plan (PFMC 1998b). The proposed project area also occurs within the area designated as EFH for chinook and coho (*O. kisutch*) salmon. A description and identification of EFH for salmon is found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999).

The objective of this EFH consultation is to determine whether the proposed action may adversely affect EFH for the species listed in Table 2. Information submitted by the COE is sufficient to conclude that the effects of this project on EFH are likely to be within the range of effects considered in the ESA portion of this consultation. Based on that analysis, the NMFS finds that the proposed project is likely to adversely affect EFH for groundfish, coastal pelagic species, and coho and chinook salmon.

The reasonable and prudent measures and the terms and conditions outlined above in Section 8 are applicable to designated groundfish, coastal pelagic and pacific salmon EFH. Therefore, NMFS recommends that they be adopted as EFH conservation measures. If the COE carries out this recommendation, potential adverse effects to EFH will be minimized.

This concludes EFH consultation for the proposed project. The COE must reinitiate this EFH consultation if discretionary Federal agency involvement or control over the action has been retained or is authorized by law and if: 1) New information reveals effects of the agency action that may affect designated EFH in a manner or to an extent not considered in this consultation; 2) the agency action is subsequently modified in a manner that causes an effect to designated EFH not considered in this consultation; or 3) new EFH is designated that may be affected by the action.

Table 2. Species with designated EFH found in waters of the State of Oregon.[3]

Ground Fish Species	Blue rockfish (*S. mystinus*)	Rougheye rockfish (*S. aleutianus*)	Flathead sole (*Hippoglossoides elassodon*)
Leopard shark (*Triakis semifasciata*)	Bocaccio (*S. paucispinis*)	Sharpchin rockfish (*S. zacentrus*)	Pacific sanddab (*Citharichthys sordidus*)
Soupfin shark (*Galeorhinus zyopterus*)	Brown rockfish (*S. auriculatus*)	Shortbelly rockfish (*S. jordani*)	Petrale sole (*Eopsetta jordani*)
Spiny dogfish (*Squalus acanthias*)	Canary rockfish (*S. pinniger*)	Shortraker rockfish (*S. borealis*)	Rex sole (*Glyptocephalus zachirus*)
Big skate (*Raja binoculata*)	Chilipepper (*S. goodei*)	Silvergray rockfish (*S. brevispinus*)	Rock sole (*Lepidopsetta bilineata*)
California skate (*R. inornata*)	China rockfish (*S. nebulosus*)	Speckled rockfish (*S. ovalis*)	Sand sole (*Psettichthys melanostictus*)
Longnose skate (*R. rhina*)	Copper rockfish (*S. caurinus*)	Splitnose rockfish (*S. diploproa*)	Starry flounder (*Platyichthys stellatus*)
Ratfish (*Hydrolagus colliei*)	Darkblotched rockfish (*S. crameri*)	Stripetail rockfish (*S. saxicola*)	
Pacific rattail (*Coryphaenoides acrolepsis*)	Grass rockfish (*S. rastrelliger*)	Tiger rockfish (*S. nigrocinctus*)	**Coastal Pelagic Species**
Lingcod (*Ophiodon elongatus*)	Greenspotted rockfish (*S. chlorostictus*)	Vermillion rockfish (*S. miniatus*)	Northern anchovy (*Engraulis mordax*)
Cabezon (*Scorpaenichthys marmoratus*)	Greenstriped rockfish (*S. elongatus*)	Widow Rockfish (*S. entomelas*)	Pacific sardine (*Sardinops sagax*)
Kelp greenling (*Hexagrammos decagrammus*)	Longspine thornyhead (*Sebastolobus altivelis*)	Yelloweye rockfish (*S. ruberrimus*)	Pacific mackerel (*Scomber japonicus*)
Pacific cod (*Gadus macrocephalus*)	Shortspine thornyhead (*Sebastolobus alascanus*)	Yellowmouth rockfish (*S. reedi*)	Jack mackerel (*Trachurus symmetricus*)
Pacific whiting (Hake) (*Merluccius productus*)	Pacific Ocean perch (*S. alutus*)	Yellowtail rockfish (*S. flavidus*)	Market squid (*Loligo opalescens*)
Sablefish (*Anoplopoma fimbria*)	Quillback rockfish (*S. maliger*)	Arrowtooth flounder (*Atheresthes stomias*)	
Aurora rockfish (*Sebastes aurora*)	Redbanded rockfish (*S. babcocki*)	Butter sole (*Isopsetta isolepsis*)	**Salmon**
Bank Rockfish (*S. rufus*)	Redstripe rockfish (*S. proriger*)	Curlfin sole (*Pleuronichthys decurrens*)	Coho salmon (*O. kisutch*)
Black rockfish (*S. melanops*)	Rosethorn rockfish (*S. helvomaculatus*)	Dover sole (*Microstomus pacificus*)	Chinook salmon (*O. tshawytscha*)
Blackgill rockfish (*S. melanostomus*)	Rosy rockfish (*S. rosaceus*)	English sole (*Parophrys vetulus*)	

[3] From Casillas *et al* 1998, Eschmeyer *et al.* 1983, Miller and Lea 1972, Monaco *et al.* 1990, Emmett *et al.* 1991, Turner and Sexsmith 1967, Roedel 1953, Phillips 1957, Roedel 1948, Phillips 1964, Fields 1965, Walford 1931, Gotshall 1977, Hart 1973, Healey 1991, Sandercock 1991, and Dees 1961.

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